Remarks

In view of the foregoing amendments and the following remarks, Applicants request reconsideration of the present application. Claims 1-11 and 21-23 have been cancelled. Claims 12 and 24 have been amended and Claims 25-38 have been added.

Applicants have amended the specification to claim priority to several co-pending and commonly owned applications that include at least one inventor in common with the present application. The present application was filed prior to November 29, 2000 and therefore this amendment and claim for priority under 35 USC §120 is proper.

The Examiner has rejected Claims 12-20 and 24 under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Examiner states that with respect to Claims 12-19 and 24, the phrase "direct-write tool" is vague and indefinite, asserting that the phrase encompasses a wide variety of meanings and it is unclear what is being claimed.

To clarify the meaning of the phrase, Applicants have amended independent Claims 12 and 24 to recite that the direct write tool is controllable over an x-y grid. At page 5, lines 29-31 of the present application, it is disclosed that a direct-write tool is one that deposits a liquid or a liquid suspension onto a surface by ejecting the composition through an orifice toward the surface without contacting the surface. Thus, it is respectfully submitted that the term "direct-write tool" has now been sufficiently defined to particularly point out and distinctly claim the subject matter which Applicants regard as the invention and removal of this rejection is requested.

The Examiner has rejected Claims 12-17, 19 and 24 under 35 USC §102(b) as being anticipated by U.S. Patent No. 5,644,193 by Matsuda et al. The Examiner states that Matsuda et al. teaches a phosphor coating for cathode ray tubes, fluorescent lamps and radiation screens. The Examiner states that the phosphor coating suspension includes spherical particles having an average particle size of from 0.5 to 20 μm and that the spherical particles can be oxides or sulfides of phosphor and that the coating can be applied by syringe injection. Applicants respectfully traverse this rejection.

Matsuda et al. discloses at Col. 13, lines 32-40:

> The phosphor of the present invention can be suitably used in a fluorescent lamp having a tube diameter

> of 8 mm or less. Since the phosphor particles are excellent in dispersion properties and fluidity, they do not cause clogging of a nozzle when the small-diameter fluorescent lamp is formed by coating the phosphor by means of syringe injection method or the sucking method under reduced pressure. Owing to this advantage, a uniform phosphor layer can be easily obtained.

Thus, Matsuda et al. disclose that a syringe device can be used to coat the phosphor on the inside of a tubular fluorescent lamp. Claim 1 has been amended to clarify the meaning of a direct-write tool and state that the direct-write tool is controllable over an x-y grid. Matsuda et al. do not disclose a tool (e.g., a syringe) that can form a phosphor *pattern* by control of the tool over an x-y grid. Matsuda et al. merely disclose that a syringe can be used to inject the phosphor into a tube having a small diameter, such as less than 8 mm. Therefore, removal of this rejection is respectfully requested.

Further, dependent Claim 16 recites that the article is a panel for a flat panel display. Matsuda et al. does not disclose or suggest such a method for fabricating a flat panel display or any similar article. As noted above, Matsuda et al. merely disclose a syringe useful for coating the inside surface of a fluorescent lamp, not for making a display. Such a syringe would likely not be useful for the formation of a flat panel display or similar article. Indeed,

Claim 17 recites that the apparent density of the phosphor particles is not greater than about 20 percent of the theoretical density of the phosphor compound. There is nothing in Matsuda et al. that suggests the particles have a density that is substantially less than the theoretical density and the manufacturing method disclosed by Matsuda et al. (fusing particles in a plasma) would likely lead to highly dense particles.

New Claims 25 and 26 recited that the phosphor particles have a specified narrow size distribution. Support for these claims can be found at page 10, lines 9-24. Such a narrow size distribution is not disclosed or suggested by Matsuda et al. and is beneficial for use in a direct-write tool, such as an ink-jet device.

New Claim 27 recites that the particulate suspension comprises a water-based liquid vehicle. Support for this amendment can be found at pages 47-48 of the present application. Matsuda et al. do not disclose or suggest the use of a vehicle that includes water. New Claim 28 recites that the particulate suspension has a viscosity of not greater

than about 30 centipoise. Support for this amendment can be found at page 47 of the present application. Matsuda et al. do not disclose or suggest a suspension having such a low viscosity. New Claim 29 recites that the pattern includes predetermined pixel regions. Support for this claim can be found at page 49. Matsuda et al. does not disclose or suggest depositing phosphors in a predetermined pixel pattern using a direct-write tool.

Independent Claim 24, as amended, recites a method for making a flat panel display using a direct-write tool that is controllable over an x-y grid by depositing phosphor particles in predetermined pixel regions. As is discussed above, Matsuda et al. does not disclose or suggest such a method for making a flat panel display or similar article. New Claim 33 recites the deposition of second phosphor particles in the predetermined pixel regions, such as to form a color display. New Claims 30 and 31 recite that the flat panel display is a field emission display or a plasma display panel. Such devices are not disclosed or suggested by Matsuda et al.

In view of the foregoing, Applicants request reconsideration and removal of this rejection in view of Matsuda et al.

The Examiner has also rejected Claims 12-20 and 24 under 35 USC §102(e) as being clearly anticipated by U.S. Patent Nos. 6,193,908 or 6,197,218 by Hampden-Smith et al. In view of the revised priority claim under 35 USC §120 for the present application, removal of this rejection is requested.

The Examiner has also rejected Claims 18 and 20 under 35 USC §103(a) as being unpatentable over Matsuda et al. in combination with Hampden-Smith et al. (6,193,908) or U.S. Patent No. 5,932,139 by Oshima et al. The Examiner states that Hampden-Smith et al. or Oshima et al. both teach that the phosphor particles are hollow or that the coating can be applied by an ink-jet.

Matsuda et al. and Hampden-Smith et al. are discussed above. Oshima et al. is directed to a fluorescent substance and discloses methods for depositing the fluorescent substance using an ink-jet device to form fluorescent marks that can be optically read. Oshima et al. do not remedy the shortcomings of Matsuda et al. discussed above. Therefore, in as much as Claims 18 and 20 depend upon Claim 1, allowance of these Claims is also requested.

A fee for the extension of time also accompanies this response. Please credit any overpayment or charge any underpayment to Deposit Account No. 50-1419. It is not believed that any additional fees are owed with respect to this response, however any such fees can also be charged to Deposit Account No. 50-1419.

Applicants believe that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation would further prosecution and/or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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